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# The psychological impact of body contouring surgery

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## ABSTRACT

**INTRODUCTION:** Body contouring surgery is associated with changes in body image and identity. The primary aim of the study was to investigate a multidisciplinary assessment of potential psychological challenges before and after body contouring surgery.

**METHODS:** Eight pre- and post-operative patients undergoing plastic surgery, two surgeons and two nurses were investigated using semi-structured and focus group interviews to capture the perspectives of both the healthcare professionals and the patients. Data were analysed using an interpretive descriptive approach and coded line-by-line until all relevant codes had been extracted.

**RESULTS:** A total of seven psychological themes were identified, indicating that surgery alone cannot improve the patients' psychological difficulties and that psychological care and management of the expected discomfort and body image is of considerable importance in providing continuity of care.

**CONCLUSIONS:** The reported quality of life is of considerable importance to patients undergoing body contouring surgery after massive weight loss. Our findings may provide useful information for surgeons and healthcare professionals allowing them to develop patient education programmes, reduce discrepancies in patient expectations and improve patient satisfaction.

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**TRIAL REGISTRATION:** not relevant.

The growing incidence of obesity has resulted in a rapid growth in body contouring surgery (BCS) due to an increase in bariatric surgery [1, 2]. Patients undergoing massive weight loss (MWL) are often left with extensive physical discomfort such as excess skin or pain, which often cause functional problems [3, 4]. This patient group experiences severe psychological symptoms prior to surgery such as distortion of body image and reduced quality of life (QOL) [5, 6]. The goal of BCS is to improve the patient's QOL by re-establishing his or her physical appearance and body image. Fulfilment of patient expectations is essential for patient satisfaction. It is therefore important that healthcare professionals (HCP) recognise the common psychological difficulties in this patient group. The aim of this study was to identify influential patient concerns and challenges before and after BCS in order to develop an educational workshop for patients prior to BCS.

## METHODS

Twelve Danish participants were divided into three groups, each counting four patients: preoperative (n = 4), post-operative (n = 4) and HCPs (nurses = 2, plastic surgeons = 2). The patients were deemed eligible for surgery and recruited by simple random invitation from our outpatient clinic. See patient demographics and characteristics in **Table 1**. The HCPs were recruited according to their experience. We obtained informed consent and approval from the Danish Data Protection Agency prior to starting the interviews.

## Data collection and analysis

A qualitative approach was taken as we employed interviews with a pre-developed interview guide to allow the participants to share their concerns and thoughts freely [7]. The interview guides were identical for each group, securing that participants were reflecting on the same questions. Interviews with patients were conducted in a focus group setting to take advantage of group dynamics, and conducted between April and June 2016. Focus groups rely on social interaction, promoting comparison of experiences, individual understandings, freedom of speech, and focused data relevant to the research topic. The interviews with the HCPs were conducted individually to obtain their expert opinion on the questions posed [8]. Each interview provided one audio recording of 40-60 minutes for the group of HCPs and 90-120 minutes for the focus group. The recordings were transcribed verbatim. All identifiable patient material was excluded from the transcript. A codebook was developed through inductive analysis. We adopted an interpretive description approach that involved line-by-line coding [9]. Several continuous themes and statements were unmasked and further divided into themes and subthemes. The data were examined against comparable quotes to establish continuity, ensure consistency and support the claims made [9]. **Figure 1** shows a diagram of the process. The codebook was reviewed and audited based on previous and newly emerged data. This included expansion and subsequent reduction until no new themes emerged. Data saturation was achieved when further analysis only added statements to existing themes. This led us to conclude work on the codebook.

*Trial registration:* not relevant.

## ORIGINAL ARTICLE

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 TABLE 1

Sample characteristics.

	Preoperative	Post-operative	Overall
Age, mean (range), yrs	35 (20-42)	44 (/34-53)	40 (20-53)
Sex, female:male, n	3:1	3:1	6:2
Employment, n			
Employed	2	4	6
Unemployed	1	0	1
No information	1	0	1
BMI when heaviest, n			
> 40 kg/m <sup>2</sup>	4	4	8
BMI at interview, n			
18.5-25 kg/m <sup>2</sup>	1	1	2
25-30 kg/m <sup>2</sup>	2	2	4
30-35 kg/m <sup>2</sup>	1	1	2
BMI reduction, n			
15-20 kg/m <sup>2</sup>	3	2	5
> 20 kg/m <sup>2</sup>	1	2	3
Weight loss method, n			
Gastic bypass	2	3	5
Gastric banding	1	0	1
Self-achieved	1	1	2

## RESULTS

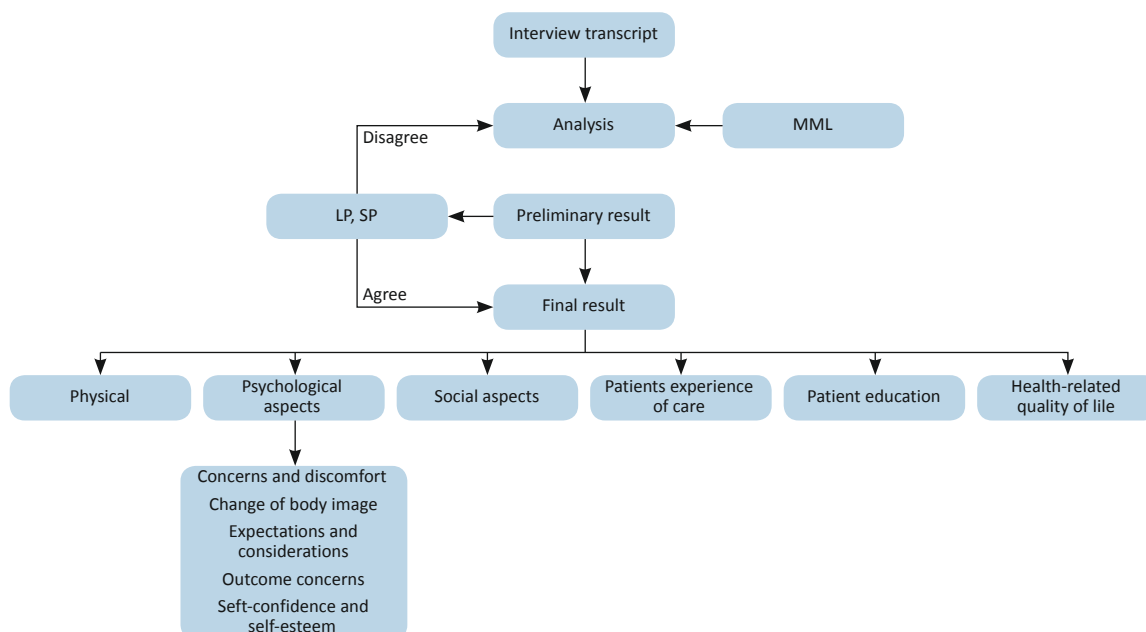
A total of 992 line-by-line statements were identified, represented by the following themes: physical, psychological, social aspects, patient's experience of care, patient education, appearance and health-related QOL. In all, 209 of the initial 992 statements were psychologically relevant. These were further divided into five psychological subthemes: concerns and discomfort, change of body image, expectations and considerations, outcome concerns, and self-confidence and self-esteem (see **Figure 2**). The distribution of subthemes is presented in **Figure 3**. The following section will present examples expressed by patients and HCPs.

### Concerns and discomfort

This was the largest theme and included the patients' concerns and discomforts as well as the HCPs' understanding of these. The preoperative patients' main concerns were post-operative weight gain due to immobilisation, lack of information and post-operative complications. The fear of gaining weight was reported by six out of eight patients, often several times. Two preoperative patients reported that they felt uneasy with their body. The post-operative patients were concerned about post-operative complications and weight relapse following surgery. Two post-operative patients also reported uneasiness with their bodies and fear of being on display. One mentioned how the preoperative

 FIGURE 1

Overview of the analysis process and theme hierarchy.



LP: second author; MML: first author; SP: third author.

drawings and pictures were transgressive although acceptable when keeping the purpose in mind. The nurses recognised patients as having concerns primarily regarding the post-operative course such as post-operative pain, complications and immobilisation.

The surgeons were very attentive regarding the patient's autonomy and any discomfort they might experience in certain clinical situations due to their dissatisfaction with their bodies. They reported how the patients seemed uneasy, but also excited to undergo their procedure.

"I don't know at which point you realise that you're fine and that you can finally relax. You don't need that anxiety anymore. I don't know what it takes to kick it – if I did, I would've done so a long time ago".

*Female, age 42, preoperatively*

### Change of body image

All participants described concerns regarding body image. Preoperatively, patients felt a large discrepancy in their perception of their bodies and psyche, and reported a distortion of their body image. They hoped that BCS would minimise this gap. The anticipated body change after BCS was mentioned, more so preoperatively as this group was concerned whether they would be able to relate to their bodies post-operatively. The post-operative patients experienced a more congruent relationship between their physical appearance and their psychological perception of their bodies. They reported that the change was everything they had hoped for, and that it was the missing piece in the puzzle that would allow them to achieve the body they had always wanted. The nurses commented on the patients' body image and embarrassment about their bodies, and described a considerable difference between patients' pre- and post-operative experiences with regard to this change. The surgeons, on the other hand, acknowledged the divergence of body image as a widely-known problem in this patient group as a result of bariatric surgery and the subsequent MWL. Both surgeons reported how surgery alone has proven inadequate in resolving this issue.

"I also got that feeling, like, my weight and my [body] image match now. They didn't prior to the surgery".

*Female, age 34, post-operatively*

### Expectations and considerations

The HCPs mentioned expectations more often than patients, with only a single patient commenting on expectations. Nurses reported how the expectations varied, but stated that these patients were less nervous than other patient groups, since they were looking forward to their surgery. One patient reported how the time span

FIGURE 2

Distribution of psychological subthemes from all participants.

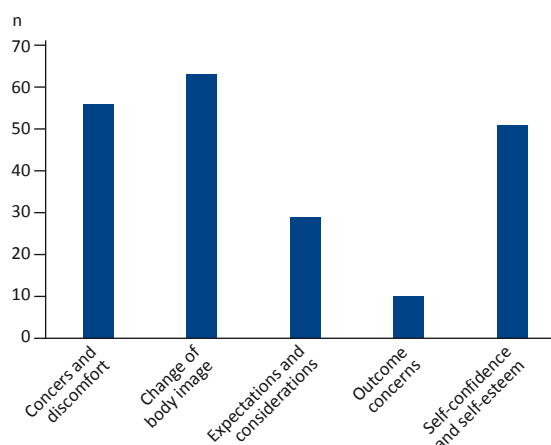
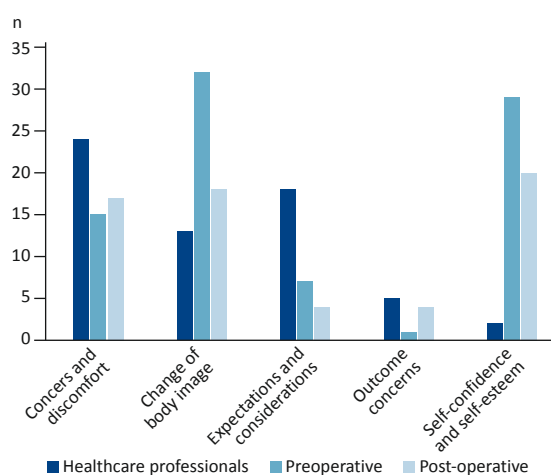


FIGURE 3

Distribution of subthemes between participants.



from weight loss to BCS made it possible to prepare mentally for what to expect. Surgeons conveyed that expectations were generally met, with no surprises occurring after the procedures. Patients with lower expectations were more prone to experiencing a feeling of success.

The preoperative patients felt that psychological aspects were not addressed, this group therefore contributed with more statements to this theme. The post-operative patients reported that not dealing with the psychological aspect left them less prepared and facing a tougher process than they would have expected. Nurses reported that this patient group is often psychologically challenged and emotionally fragile. Surgeons reported that solving psychological issues is a challenge

that they have a hard time addressing, and when they do, it is through shared decision-making. One surgeon also reflected on how it is impossible to generalise the psychological difficulties in this patient group. Furthermore, the surgeon reported that these patients are not used to having their expectations fulfilled.

“... you could generally say that this patient group isn’t exactly used to having their expectations in life fulfilled. This is where you can make a huge difference for a lot of them”.

*Surgeon 1*

### Outcome concerns

Only one preoperative patient mentioned scarring, and she did not mind surgical scars as she considered them to form part of her journey. The post-operative patients’ concerns largely revolved around the final outcome. Three directly addressed their excitement towards the final result. Patients who had undergone more than one procedure were more focused on the final outcome than preceding stages. The nurses experienced how patients with complications were less satisfied with their outcome, and seemed to regret their decision to undergo surgery. Surgeons reported how patients seemed eager to undergo surgery, but also that they suppressed their concerns.

“[...] at this point I’m looking forward to the surgery. I believe that the scars I will have are a testimony to my journey, and that I will be proud of them because of that. So, no, I’m not worried.”

*Female, age 40, preoperatively*

### Self-confidence and self-esteem

Self-confidence and self-esteem influenced the daily life of participants. Pre- and post-operative patients were divided in terms of their self-confidence and self-esteem. The pre-operative patients reported that they generally had a low self-esteem, realising that it was something they themselves had to work through. Every single pre-operative patient reported that he or she expected to gain self-esteem after their respective surgeries. In comparison, all post-operative patients reported a boost in self-esteem after surgery. The patients also reported how they had become more outgoing and less self-conscious, noting also an overall positive influence on their psychological wellbeing. A nurse reported how patients she met at the outpatient clinic 3–4 months post-operatively expressed that their self-esteem had increased. One surgeon mentioned self-confidence and self-esteem, but reported that surgery alone can never resolve such issues.

“I could be the one who doesn’t get bullied every day. That would definitely give me a bit more self-confidence and self-esteem. So, I’m really looking forward to some personal growth”.

*Female, age 40, preoperatively*

### DISCUSSION

This user-oriented study aimed to clarify the diversity of the psychosocial aspects affecting the process of BCS. We synthesised the knowledge gained from our study to provide a more comprehensive understanding of the impact and experiences from three different perspectives. Patients, nurses and surgeons agree that the entire process from weight-loss to BCS creates much physical and psychological distress with a main focus on expectations regarding body image [10–12]. Acknowledging this diversity by informing and educating patients has several advantages, including psychological, physical and social benefits [4, 5]. BCS has the potential to directly improve the quality of life, re-establish the body image and reduce discomfort [13, 14]. Our results are in line with those of previous studies that have demonstrated that body image is significantly improved when MWL is followed by BCS [10, 12, 15, 16]. Previous studies have focussed on a wide array of results, whereas our study focuses specifically on the psychological aspects. This contributes to our understanding of the psychological difficulties that these patients may encounter; furthermore, our findings may inform preventive measures in patient education [17]. A study by Kitzing et al [18] calls for psychological assessment and seeks to outline realistic patient expectations. This is in line with our previous study on patient expectations, where we found that expectations are a predictor of the result [4]. Patients who lack proper information show more dissatisfaction, which has the potential to negatively influence their QOL [19]. The present study has provided insight into previously unknown issues by incorporating experiences from patients as well as HCPs. The discrepancies we discovered have prompted two crucial changes in our patient education programme. Due to the considerable discrepancy and overall number of statements with regards to the change of body image, self-confidence and self-esteem, we decided to include a psychologist in the patient education programme. This was decided to ensure that this issue would be addressed by a professional with expertise in the field. Furthermore, we added a more extensive briefing of patients than initially planned due to the multiple reports of concerns and discomfort. This subtheme was presented throughout all three participating groups, and should therefore have an equivalent impact on the patient education programme.

Our study is limited by its small sample size; this does not, however, interfere with our results as our

sample provided rich and detailed data. Furthermore, our study was conducted solely in Denmark where body contouring within certain criteria is provided as public healthcare, which can potentially limit the transferability of our results to other countries. A strength of our study is the inclusion of HCPs, which allowed us to report on three different perspectives on the psychological factors [20].

## CONCLUSIONS

This study provides insight into psychological aspects of BCS as seen from both a user and a HCP perspective. It was shown how expectations and concerns regarding bodily identity may affect the course of BCS. The psychological aspects reported in this study provide an interdisciplinary understanding of the challenges in this patient group. Our results have been used in the development process, leading to the creation of a patient education programme using the three perspectives. By implementing each group's essential findings, we hope to reduce the pre- and post-operative difficulties in BCS. Nurses, surgeons, psychologists and physiotherapists deliver the workshop, which conveys the key findings from our interdisciplinary study.

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